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# EXECUTIVE SUMMARY

## COUNCIL ON ENVIRONMENTAL QUALITY

December 1971

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# ANALYSIS OF ECONOMIC IMPACTS OF ENVIRONMENTAL STANDARDS ON THE BAKERY INDUSTRY (PART I)

COUNCIL ON ENVIRONMENTAL QUALITY

ERNST & ERNST

December 1971

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1225 CONNECTICUT AVE., N.W.
WASHINGTON, D.C. 20036

December 10, 1971

Mr. E. R. Zausner
Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D.C. 20006

Dear Mr. Zausner:

We have completed our study of the impact of the costs associated with new environmental standards upon the bakery products industry. This and the accompanying two volumes present our findings.

BACKGROUND

In late September the Council on Environmental Quality engaged Ernst & Ernst to study the consequences of pollution abatement requirements for the bakery industry. Ernst & Ernst's task was to use the Environmental Protection Agency's estimates of pollution costs and our investigation of the bakery industry to determine these consequences. The output of the study was to be three products:

(Part I). An executive summary that presents pertinent industry structure and trends and the quantitative and qualitative findings concerning the economic impacts on the industry of abatement control expenditures.

(Part II). A description of the structure of the industry, an analysis of the industry detailing industry characteristics and trends that are relevant to the economic analysis of the effects of pollution abatement costs on the industry.

(Part III). A detailed analysis of the economic impact of pollution abatement upon the industry, particularly the costs of pollution control. Since the Council on Environmental Quality requested that Part II not include any speculation about the economic impact of pollution costs, the preliminary findings of Part II are included in Part III.

This report represents Part I of the study.

## INTRODUCTION

This report, Part I, provides a summary of the findings of an investigation into the effects of pollution abatement cost upon the bakery industry. The supporting information for the conclusions presented in this summary can be found in Parts II and III of the study.

## SUMMARY OF FINDINGS

The major findings of the study are organized into the following topics:

- Industry structure
- Pollution control expenditures
- Economic impact of control expenditures
  - Price and profit effects
  - Employment impacts
  - Industry dislocations
  - International impacts
  - Regional impacts
- Future pollution abatement costs
- Public finance implications

### Industry Structure

The bakery industry is characterized by a multiplicity of plant and firm sizes. Although there are some large firms, no plant produces more than 4 percent of the industry's output. This is due primarily to the perishable and/or fragile nature of the product. In fact, plant location is dictated largely by population concentrations, with the large firms operating plants of all sizes throughout the country.

Demand for bakery products has grown slowly. The rate of growth has been about 1.5 percent per year, about half the rate of population increase. However, prices for bakery products have increased rapidly in the recent past, and hence dollar volume has grown more rapidly.

Industry concentration has been increasing slowly in the bread, cake, and related products industry (SIC 2051) and has remained stable in the biscuit and cracker industry (SIC 2052). As more firms automate concentration is likely to increase. Nevertheless, the highly competitive nature of the industry is unlikely to change because of geographic dispersion and offsetting diseconomies of scale in terms of ability to easily apply equipment to different products. These characteristics are not likely to be affected by abatement costs since the costs are extremely small.

## Pollution Control Expenditures

Pollution control expenditures are estimated to be very low in this industry because of the mildness of the effluents and the low volume of waste water discharge. The per unit cost of abatement for the industry is estimated at .01 to .02 cents per pound of product in the bread and related products industry and .05 to .09 cents per pound in the biscuit and cracker industry. It is likely that most bakery firms would choose to pay higher sewer charges (e.g., $ .10 per 100 gallons of discharge) rather than build their own facilities because of the location of most in urban or suburban areas where land is costly.

## Economic Impact of Abatement

The very low costs involved in pollution abatement in this industry suggest there is little likelihood of any significant economic impact. Abatement costs in the form of effluent charges would have to be 1000 percent higher to increase costs sufficiently to add 1 cent per pound to the prices of bakery products. It is expected that costs will be absorbed in profit margins or recovered from price changes that take place for other reasons.

Thus the following impacts can be expected:

- On prices and profits--negligible
- On employment--none
- On industry dislocations--none
- On international trade--none
- On regional trade--none

## FUTURE POLLUTION ABATEMENT COSTS

Abatement costs are likely to be higher in the future than those estimated by the Environmental Protection Agency (EPA) in its cost model. The EPA model specifies standards equivalent to secondary treatment; however, future costs will likely be based on implementation of tertiary treatment, which is a far costlier level of control. These costs will probably come in the form of higher sewer charges, since the economics of municipal treatment make it preferable to private treatment at the plant. In addition, tertiary treatment requires land, which may well be unavailable to individual plants. Such costs, if they approach the 1000 percent increase, could be expected to increase bread prices and perhaps also accelerate the trend toward industry concentration because larger firms may take advantage of cost reduction benefits from automation in response to increased cost and hence put increased pressure on smaller firms.

Another aspect of pollution abatement in the bakery industry is odor control, the costs for which would be quite high and would involve large capital expenditures and significant downtime. If odor control is required, then the price of bakery products would likely be affected as would concentration and perhaps employment because of the move to fewer, larger, more automated bakeries.

A third aspect of pollution control is the possibility of higher electric rates stemming from abatement costs for electricity generating plants. As heavy users of electricity, bakeries might find their own costs significantly increased from this quarter.

PUBLIC FINANCE IMPLICATIONS

An important factor in assessing the impact of pollution control in the bakery industry is the income redistributional effects of effluent charges or cost increases due to abatement standards.

Bakery products make up a greater proportion of the food budgets of poor families then those of wealthier families. Thus any cost increases that are passed on to the consumer will be felt more heavily by the poor, creating a regressive effect.

In addition, activities that involve enjoyment of the environment seem to be engaged in less by the poor than by those better off, particularly such amenities flowing from water pollution abatement as boating, fishing, swimming, and other leisure activities. Thus, pollution control in the bakery industry will, if costs are significant, result in a redistribution of income from the lower to the middle and upper income groups. This factor should be considered when deciding how to reduce pollution in the bakery industry.

Very truly yours,

Ernst & Ernst